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ABSTRACT

A total of 168 fourth and sixth grade students participated in a study to examine two aspects of children's ability to apply structure while reading. The first part of the study investigated the amount of detail that must be provided in order for students to apply successfully a desired perspective (schema). Students were identified as either good or poor readers and placed into control or experimental groups. All students were given a short passage to read, with readers in the control groups asked to highlight any material they thought to be important and readers in the experimental group asked to highlight material related to a prescribed topic. They were also administered a recall task. The results showed that both fourth and sixth grade students recalled more perspective-related material when given a perspective. The second part of the study examined age and reading ability differences in student awareness of an idea unit's structural importance. The methodology used was the same as in the first experiment, with the exception that students also completed a recognition task in which they chose from a group of sentences those that had appeared in the passage. Reading ability was found to interact with idea unit importance on both recall and highlighting measures. Both measures showed good readers to be more sensitive to the structural relevance of the material they were reading. (FL)

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The Impact of Reading Competence and Grade Level on the Ability to Take and Utilize a Perspective

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Paper Presented at the Midwestern Psychological Convention, May 1980.

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Running Head: Ability to Take a Perspective

Abstract

Fourth and sixth grade students grouped as good or poor readers were asked to read a story from a certain perspective or with instructions to read carefully. The ability to take a perspective, as measured by skill in differentiating important material on a highlighting task or in reproducing it on a later recall test, was present in both age groups. Reading skill was found to produce significant differences on both types of dependent measures. Further analysis indicated that reading ability differences in recall were related to, but could not be totally accounted for, by the ability to identify important material. A model is proposed claiming that poor readers are too overburdened by lower level reading skills to engage in this type of cognitive processing.

The Impact of Reading Competence and Grade Level on the Ability to Take and Utilize a Perspective

A substantial literature has recently accumulated demonstrating that retention of a specific item of information from a prose passage is at least partly a function of the place that item holds in the cognitive organizational structure the reader applies in attempting to comprehend the passage. Although the same basic principles are probably operating in each case, the nature of cognitive structure varies to some extent across several areas of research. It may represent the idealized structure of a common prose form (Kintsch, 1977; Mandler & Johnson, 1977), the unique logical structure of a given passage (Meyer & McConkie, 1973) or an externally imposed schema (Pichert & Anderson, 1977). While the exact mechanism by which a structure influences retention in any of these areas of research is not well understood, it has been argued that a structure either aids storage, retrieval or the distribution of a reader's attention (Pichert & Anderson, 1977).

Given the demonstrated relationship between structure and retention, the ability to utilize structure becomes a skill warranting closer scrutiny. Perhaps the development of this skill is important in attaining a mature reader's approach to prose comprehension. Of special interest would be a careful examination of potential age or reading competence differences in the use of an available organizational structure. Most previous developmental studies of prose retention (Brown, 1975; Brown & Smiley, 1977a; Christie & Schumacher, 1975; Mandler & Johnson, 1977; Dent & Throndyke, Note 1) seem to indicate that children from even the early elementary grades are sensitive to prose structure. These studies do show that retention of prose material improves with age. How-

ever, the research also demonstrates superior recall of information high in structural importance to be a constant effect across age levels. Studies demonstrating an age difference in sensitivity to structure have adopted procedures emphasizing some outcome measure other than immediate recall. Brown and Smiley (1977a) were able to demonstrate that age was related to the ability to separate prose idea units by level of structural importance. Brown and Smiley (1977b) found that when given extra study time mature readers differentially increase their recall across different levels of rated importance. Material of greatest structural significance showed the greatest gains. This response pattern was not observed among a group of fifth graders. An adequate reconciliation of the results from this entire group of studies is not obvious.

In comparison to the developmental research, studies relating reading competence to the ability to utilize structure have been much less prevalent. Smiley, Oakley, Worthen, Campione and Brown (1977) have shown that good and poor readers differ not only in total recall, but in the pattern of recall across level of idea unit importance. Using basically the same methodology that was previously shown to demonstrate the lack of an age difference in sensitivity to structure, these researchers found that good readers were particularly adept at recalling information judged to be of high importance to the story. Grabe and Prentice (in press) have essentially demonstrated the same effect using the Pichert and Anderson (1977) imposed perspective technique with sixth graders. In this study, students grouped as good or poor readers were asked to read a story from a certain perspective or with instructions to just read carefully. The perspective involved imagining that the student was interested in buying the home described in the story and wanted to know as much as

possible before making the purchase. Not only did the good readers recall more information from the story, but when asked to take the homebuyer perspective, proportionally more of the total information they recalled was related to this topic. It is unclear from these studies exactly what deficiency the poor readers possess. The students may have been less able to discriminate the important material when it was first encountered or may have been less adept at using the structure provided in storing or retrieving structure-related information.

In order to interpret individual differences in the ability to utilize structure, one must first have some understanding of how cognitive structure influences reading. The model being proposed is that structure provides the reader with a decision making mechanism for distributing the reader's attentional resources. Studies demonstrating that viewing time (Reynolds, Standiford & Anderson, 1978; Rothkopf & Billington, 1979) and the pattern of eye movements (Rothkopf & Billington, 1979) vary within a prose passage according to the importance of the material being read may provide tangible evidence of the reader's allocation of attention. Perhaps these external indicators also provide evidence of what Craik and Lockhart (1972) refer to as differences in the depth of processing. The reader's structure therefore may differentiate certain material for special attention resulting in deeper processing.

This study uses the imposed structure methodology developed by Anderson and his colleagues (Anderson, Reynolds, Schallert & Goetz, 1977; Pichert & Anderson, 1977). Anderson has conceptualized the reader's knowledge structure in a manner similar to Bartlett's (1932) use of the term schema: an abstract and general structure with placeholders for specific items of relevant infor-

mation. As an example from this research, a subject's burglary schema might contain general categories related to entering the premises, avoiding detection, finding loot and making a getaway. Anderson was able to demonstrate that factual information which could logically be related to some aspect of the reader's perspective (schema) was more likely than irrelevant material to be retained. The present study seeks both to replicate the basic age and reading ability results using the imposed structure methodology and to examine possible group differences in the ability to apply structure while reading. Two aspects of the ability to apply structure will be examined. The first concerns the amount of detail that must be provided readers in order for them to successfully apply the desired perspective. Readers were given a general perspective (what a burglar would want to know) or a more detailed perspective (how a burglar would get into the house, what things he would take, and how he would avoid getting caught). It was predicted that the more specific perspective would be especially helpful to younger and less able readers. The second issue involved an examination of possible group differences in the awareness of an idea unit's structural importance during the reading process. The reader's ability to highlight relevant material was employed as the measure of structural awareness. Like study time and eye movements, highlighting behavior provides a direct look at reading processes unattainable through analysis of the information retained. The highlighting data can be used to determine whether the presence of structure facilitates a child's detection of idea unit relevance or simply the retrieval of previously detected idea units.

Experiment 1

Method

Subjects. The 120 students involved in this study were fourth and sixth

graders from the Northwood and Kelly elementary schools. One school was located in a small rural community and the other in a small city. The vast majority of students attending each school were white and of middle socioeconomic status. The experiment was conducted during the final month of the school year. Because the experimental treatments required rather unusual instructions and the experimenter wanted to be able to respond verbally to any questions, intact classes were subjected to the different treatments. Differences in class size and possible differences in class ability (no systematic attempt had been employed to ability group the classes) necessitated the following procedure for assigning students to the good and poor reader groups. First the smallest class was identified with each grade level. Subjects were randomly eliminated from the larger of these classes to attain groups of equal size. Subjects from the other classes within a grade level were then selected to closely match the ability level of individual subjects within the smallest classes. Finally, a median split was employed to identify 10 good and poor readers within each grade and treatment combination (class). Students were classified using scores from the vocabulary subtest of the Iowa Silent Reading Tests - Level 1 Form E. The vocabulary subtest correlates .84 with the comprehension subtest (Farr, 1973) and was selected for use in this research because of its brevity. The good and poor sixth grade students averaged 32.4 and 17.6. The average scores for the fourth graders were 23.2 and 13.6.

Materials. The reading passage was a modified and expanded version of the Pichert and Anderson (1977) story describing the experiences of two boys as they skip choir practice and visit one of the boy's home. The story was originally constructed to contain equal amounts of information of interest to

a reader asked to take either a burglar or homebuyer perspective. Although the burglar perspective was the only schema readers were asked to adopt in this experiment, the story in its expanded form still reflects at least two general areas of information. The story used in this study contained 660 words. Readability was computed to be at the fourth grade level (Gilliland, 1974), but this method may slightly underestimate the difficulty level because much of the passage contains dialogue. The passage was divided into 80 idea units by the author and an associate. Twenty college students then rated the importance of each idea unit to the burglar perspective on a five point scale. A median split on average rated importance was used to label an idea unit as high or low in importance.

Procedure. All material was presented to the students in the form of a self-contained booklet. A preliminary task was utilized to familiarize students with highlighting. Each reader was presented a four sentence paragraph. Readers in the control groups were asked to mark any material they thought to be important. Readers in the perspective groups were asked to mark the material related to a prescribed topic. The experimenter then spent a few minutes asking about and discussing what the students marked.

Students next spent seven minutes reading and highlighting the story. Students assigned to the control condition were told to read the following story carefully, underline what you think is important and try to remember as much as you can. The general perspective group was instructed to read the following story paying special attention to and highlighting information that would be important to a burglar. To ensure that each reader understood the instructions they were asked to list three things a burglar would want to know before the student was allowed to read the passage. The specific perspective

group was asked to pay special attention to and highlight information which described what a burglar might take, how the burglar would get into the house and how the burglar would keep from getting caught. Again, the reader was asked to list one example for each area of interest before reading. Following the reading task, seven minutes were allowed for the vocabulary test. Finally, the subjects were instructed to write down everything they could remember about the story. Perspective subjects were told very clearly that all material in the passage was to be recalled. Subjects were told to provide as much specific information as possible and that they did not have to worry about the order in which the information was written down.

The author, blind to the assigned treatment of each subject, scored the recall protocols leniently for gist. A random sample of 10 protocols when scored by a second individual produced a reliability coefficient in excess of .90. The number of perspective relevant and irrelevant idea units recalled was analyzed using a 2 x 2 x 2 x 3 mixed design analysis of variance. The specific factors were Grade (4 or 6), Reading Ability (high or low), Idea Unit Importance (relevant or irrelevant) and Instructions (general perspective, specific perspective or control). Grade, Instructions and Reading Ability were between-subject factors. With the exception of the Instructions condition (no control group was included), the same analysis was conducted with highlighting scores. In this case, an idea unit was judged to be highlighted if any portion of the idea unit had been marked by the subject.

A second type of analysis was performed to determine if age or reading ability differences in recall could be accounted for by the student's ability to identify relevant material while reading. In order to accomplish this analysis, the number of high relevance idea units that were both recalled and

highlighted were summed for each reader. A proportion was then calculated relating the total just described to the total number of high importance idea units highlighted. This value was analyzed using a 2 x 2 x 2 analysis of variance with the specific factors being Grade (4 or 6), Reading Ability (high or low) and Instructions (general perspective or specific perspective).

Results

The analysis of recall results demonstrated significant[2] main effects for grade, F (1, 108) = 12.17, reading ability, F (1, 108) = 19.19, and idea unit importance, (1, 108) = 67.28. The older and more competent readers were able to recall more information. In addition, the information strongly related to the burglar perspective was found to be easier to recall.

All significant interactions involved idea unit importance. Instructions interacted with idea unit importance, F (2, 108) = 14.60. Tukey tests indicated significant differences between high and low idea unit recall for the two perspective groups, but not the control group. Reading ability interacted with idea unit importance, F (1, 108) = 3.94. Tukey tests indicated that good and poor readers differed significantly in the recall of perspective relevant, but not irrelevant idea units. As shown in Table 1, the three way interaction of ability, instructions and idea unit importance was also significant, F (2, 108) = 3.03. Tukey tests comparing the recall of high and low relevant idea units within each group indicated significant differences within all perspective groups. However, the size of the difference varied with the ability of the reader. The recall differences for the good readers in the general and specific perspective groups were 5.25 and 4.65 respectively. The same differences for the poor readers were 3.50 and 1.75.

Insert Table 1 about here

The highlighting analysis demonstrated significant main effects for reading ability, F (1, 72) = 4.14, instructions, F (1, 72) = 22.10, and idea unit importance, F (1, 72) = 1115.90. High ability readers and students given the general perspective instructions highlighted more idea units. As might be expected, relevant idea units were highlighted much more frequently than irrelevant idea units. Again, both significant interactions involved idea unit importance. Instructions interacted significantly with idea unit importance, F (1, 72) = 11.06. Tukey post hoc comparisons showed that the general instruction groups highlighted significantly more idea units of high relevance than the specific perspective groups, but that this comparison was not significant for idea units of low perspective relevance. The interaction of reading ability and idea unit importance is shown in Table 2. Again, Tukey tests indicated significant differences on the material of relevance to the burglar perspective, but not on the other material.

Insert Table 2 about here

The analysis examining the proportion of the relevant information recalled to the relevant information highlighted produced significant effects for grade, F (1, 72) = 5.16, and reading ability, F (1, 72) = 7.50. Surprisingly, the fourth graders recalled a higher proportion of the highlighted material (38% vs. 30%). Good readers also recalled a higher proportion (39%) than poor readers

(29%). There were no significant interactions.

Discussion

The results of this experiment clearly replicate earlier work. The recall data demonstrating that both fourth and sixth graders recall more perspective related material when given a perspective support the developmental research claiming that even younger children use structure in retaining prose. The unique aspect of this developmental comparison was that structure in this case involved an imposed perspective rather than a common story format or the internal structure of the passage. The ability to use an external structure independently of and probably in addition to the internal structure of the passage demonstrates that a tremendous flexibility in cognitive processing exists at these grade levels. This ability to control cognitive processing seems very close to the metacognitive skills discussed by Flavell (1977). The three way interaction of reading ability, type of instructions and idea unit importance also clearly supports the earlier work of Grabe and Prentice (in press). While it seemed that all groups asked to take a perspective were able to some extent to do so, the more able readers did show a stronger reaction to the perspective instructions.

The highlighting procedure was different from earlier attempts to measure structural awareness (e.g., Brown & Smiley, 1977a) because the task required simultaneous attention to the highlighting task and reading for retention. While this procedure may obscure the investigation of structural awareness as an independent issue, the procedure does provide a more realistic view of structural awareness while reading. The highlighting results clearly demonstrated that young readers were able to discriminate between perspective relevant and irrelevant material. While this skill did not vary with grade level,

it did depend to some degree on reading ability. One plausible explanation might be that poor readers are overburdened by the processing demands of the highlighting and reading tasks and are unable to attend as carefully to the highlighting requirements. Processing demands do not refer to the time constraints on the total reading task, but rather to the efficient use of short term memory (Perfetti & Lesgold, 1977; Dent & Thorndyke, Note 1) in performing the various cognitive tasks associated with reading. When processing capacity is being overloaded, the poor reader may be found to be attending to more basic requirements than those produced by the external perspective task. This is not to claim, as Perfetti and Lesgold (1977) have argued, that structural utilization is not a skill differentiating good and poor readers. Obviously, reading ability was an important factor in both the recall and highlighting results.

An unexpected finding in the highlighting analysis and to a lesser extent in the recall analysis involved the comparison of the general and specific perspective treatments. The general perspective proved superior in its effect on both dependent measures. While this author believes that all relevant idea units could be associated with one of the specific perspective components, the younger readers may not have responded in the same manner. A second explanation for these results may be that the specific perspective is more complex than the general perspective and in some cases may override the processing capacity of the reader.

The final major analysis involved a comparison of the retention rates for information previously identified as relative to the imposed perspective. If retention was solely determined by the awareness of structural importance,

one would expect the retention rates for good and poor readers to be similar. The basis for such an expectation lies in the assumed importance of the ability to devote attention to important material. If the reader were unaware of what was important, then there would be no basis for differential attention. The results show that once an item has been identified as relevant by both good and poor readers, the good readers are still more likely to retain it. A possible explanation, consistent with some ideas advanced earlier, is that poor readers not only lack the processing capacity to detect relevant material, but also have less opportunity to attend to the relevent material once it has been isolated. However, other explanations are also possible and without further experimentation the proposed explanation must be considered somewhat arbitrary.

One possible problem with the retention measure of the first experiment was the reliance on recall. It has been claimed that a measure of expository skill (Brown, 1975) or one biased by recall editing (Fass & Schumacher, Note 3) may give misleading information about the impact of structure. The second experiment attempted to replicate the reading ability difference in perspective taking skill using a sentence recognition procedure. In addition, a regression procedure was used to determine if highlighting accuracy accounted for a significant amount of perspective relevant recall beyond that accounted for by vocabulary skill.

Experiment 2

Method

Subjects. The 48 students involved in this study were fourth and sixth graders from the Midway elementary school. The students were similar in back-

ground to those described in Experiment 1. The procedure for classifying students as good and poor readers was also identical.

Materials. The prose passage used in the first experiment was also employed here. A recognition test was constructed by selecting six sentences either high or low in perspective relevance. This was accomplished by identifying the sentences containing either exclusively high or low perspective relevant idea units and then selecting from this set the six sentences with the highest and lowest average idea unit importance ratings. Twelve distractors were generated by constructing sentences which fit the homebuyer or burglar perspectives. While these sentences were consistent with the story theme, none was a modification of any existing sentence.[4]

Procedure. With the exception of the recognition task, the procedure was an exact replication of the specific perspective condition described in the first experiment. The recognition task followed the free recall task. Students were asked to indicate whether each sentence had been taken from the story they had read. They responded to each sentence by circling either yes, maybe or no.

The number of perspective relevant and irrelevant idea units both highlighted and recalled were analyzed using a 2 x 2 x 2 mixed design analysis of variance. The specific factors were Grade (4 or 6), Reading Ability (high or low) and Idea Unit Importance (relevant or irrelevant). Grade and Reading Ability were between-subject factors.

The recognition items were scored by assigning a value of 2 to a yes, a 1 to a maybe and a 0 for a no. These values were then summed for the six sentences of a given type producing a possible range in scores from 0 to 12. The

recognition scores were analyzed using a 2 x 2 x 2 x 2 mixed design analysis of variance. The specific factors were Grade (4 or 6), Reading Ability (high or low), Perspective Relevance (high or low) and Sentence Presence (present or not present). Grade and Reading Ability were between-subject factors.

An R^2 improvement technique (Kerlinger & Pedhazur, 1973) was used to determine the variability in perspective relevant recall accounted for by highlighting skill after the impact of vocabulary was removed. Highlighting skill was assessed as the number of perspective relevant idea units marked.

Results

The analysis of recall results demonstrated significant main effects for grade, F (1, 44) = 11.22, reading ability, F (1, 44) = 17.89, and idea unit importance, (1, 44) = 20.00. Older and more competent readers were able to recall more idea units. In addition, perspective relevant idea units were recalled more frequently than less relevant information. Reading ability also interacted with idea unit importance, F (1, 44) = 4.60. Tukey tests indicated that only the good readers demonstrated a significant difference between important and unimportant idea units (see Table 3).

Insert Table 3 about here

The highlighting results closely parallel those from the recall analysis. Perspective relevant idea units were highlighted more frequently than irrelevant idea units, F (1, 44) = 571.24. More able readers also indicated that more idea units were important, F (1, 44) = 20.26. A significant reading ability by idea unit importance interaction, F (1, 44) = 24.13, indicated that the

greater highlighting by the more able readers was confined to the relevant material (see Table 3). Tukey tests showed that the good and poor readers differed only in their highlighting of the perspective relevant material.

The analysis of recognition scores produced significant main effects for perspective relevance, F (1, 44) = 31.68, and sentence presence, F (1, 44) = 320.20. As would be expected, sentences related to the assigned perspective and sentences that were actually presented were more likely to be rated by the students as being taken from the original passage. The analysis also yielded significant interactions for reading ability by sentence presence, F (1, 44) = 8.72, and perspective relevance by sentence presence, F (1, 44) = 16.41. Tukey tests comparing the mean recognition values for perspective relevant and irrelevant sentences indicated a significant difference only for the sentences that actually were present. The means from the reading ability by sentence presence interaction are shown in Table 4. Although post hoc comparisons indicated that good and poor readers differed significantly only in their recognition of sentences that were actually present, note that the interaction is clearly disordinal in form.

Insert Table 4 about here

The final analysis involved an R^2 improvement regression procedure. Highlighting accuracy was found to significantly augment the variability accounted for by vocabulary differences, F (1, 45) = 4.29. The highlighting variability increased the variability accounted for by 6% to a total value of 35%. Zero-order correlation coefficients calculated between vocabulary, highlighting skill and the dependent variable indicated a correlation of .54 for the vocabu-

lary score and .50 for highlighting.

Discussion

These results clearly replicate the findings reported in Experiment 1. Most notably, reading ability was found to interact with idea unit importance on both the recall and highlighting measures. Both dependent measures showed the good readers to be more sensitive to the structural relevance of the material they were reading. Again, grade level was not found to interact with idea unit importance. Readers from both age groups were able to respond to the perspective instructions with the expected sensitivity to the relevant material.

A recognition measure was included in this study to validate the results found with the recall task. Perhaps good readers, being more adept at cognitive tasks in general, are able to bias their recall by concentrating only on outputting perspective relevant material. Because the model being developed implies that utilizing the structure of a perspective results in real memory differences, it is important to rule out possible group differences in expository power. A recognition task requires the reader to make a response for each sentence and therefore is not subject to an output bias. The recognition task provided a much more impressive look at the reader's retention capabilities than was provided by the recall measure. While subjects were only able to write down about 13% of the idea units they read, they were able to recognize sentences with a much higher degree of accuracy. However, the results still showed the reader's greater sensitivity to sentences containing material related to the imposed perspective. The better readers did respond with better recognition accuracy, but reading ability failed to interact with perspective relevance. The fact that means were in the correct direction and both reading ability

groups responded with a very high degree of accuracy suggest a possible ceiling effect. It should also be noted that the recognition study does not have the proper control groups to conclusively answer certain questions. Because groups given a perspective are not compared with groups given no perspective, there exists the possibility that perspective relevant and irrelevant sentences differ in some unknown way in addition to their relationship to the perspective. While the sentences used in this experiment were selected in a rationale fashion, the possible biases just described warrant further investigation with more careful attention being given to proper task difficulty and appropriate experimental controls.

Taken in conjunction with the first experiment's analysis of the proportion of highlighted information recalled, the present regression analysis warrants speculation regarding the relationship between awareness of structural relevance and recall probability. The regression and correlation procedures from this study seemingly indicate that knowledge of idea unit importance is both related to retention as strongly as vocabulary and that it also accounts for a significant proportion of retention beyond that accounted for by vocabulary. These findings are of special importance because vocabulary is such a good measure of general reading competence at this age level. However, because the results of the first experiment make it clear that the poor reader must do more than detect relevant material to be able to remember it as well as the good reader, a critical link in the interpretive model is still missing. While the present research cannot supply the missing information, this researcher would like to speculate that both the highlighting and retention results stem from a common source. This source concerns the reader's ability to complete basic reading functions (e.g., Perfetti & Lesgold, 1977) without jeopardizing the processing capacity necessary to engage in the metacognitive skills

necessary for structure utilization. A reader may fail to differentially process information for several reasons. First, the reader may be unaware of the structural relevance of the material. This difficulty may stem from the lack of an appropriate structure or a failure in using an existing structure. One reason for failing in the use of an existing structure would be the prior commitment of cognitive resources to more rudimentary reading skills. Secondly, even when priority material has been identified there is no guarantee that the reader will process it in any special manner. Again, limited cognitive capacity may restrict the special attention this material receives. Perhaps future research could utilize the imposed perspective technique to compare good and poor readers presented a passage either visually or aurally. The present explanation would predict larger ability group differences with the material the student would have to read.

Reference Notes

1. Dent, C. & Thorndyke, P. Children's use of schemata in comprehension and recall of narrative texts. Paper presented at the 86th Annual Convention of the American Psychological Association, Toronto, 1978.
2. Results will be reported as significant when $p \leq .05$.
3. Fass, W. & Schumacher, G. Sentence-recognition errors and perspective. Paper presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, 1979.
4. All materials are available upon request.

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Table 1

Mean Number of Relevant and Irrelevant Idea Units

Recalled by Treatment Groups

		Idea Unit Type	
Instructions	Ability	Relevant	Irrelevant
Control	Low	5.00	4.30
	High	6.75	6.90
General	Low	6.85	3.35
	High	9.25	4.00
Specific	Low	5.00	3.25
	High	8.40	3.75

Table 2

Mean Number of Relevant and Irrelevant Idea Units

Highlighted by Ability Groups

	Idea Unit Type	
Ability Level	Relevant	Irrelevant
Low	15.68	2.58
High	18.43	2.65

Table 3

Mean Number of Relevant and Irrelevant Idea Units

Recalled and Highlighted by Ability Groups

		Idea Unit Importance	
Task	Ability Group	Relevant	Irrelevant
Recall	Low	4.29	2.96
	High	8.13	4.33
Highlight	Low	12.33	1.54
	High	18.25	1.88

Table 4

Mean Recognition Scores for Sentences that were Present or Absent in the Original Passage

	Sentence Type	
Ability Level	Present	Absent
Low	8.69	2.63
High	10.17	1.71